

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TESSERA ADVANCED TECHNOLOGIES,
INC.,

Plaintiff,

vs.

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

Case No. 2:17-CV-671-JRG

BEFORE: Hon. Rodney Gilstrap

JURY TRIAL DEMANDED

**SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA,
INC.'S RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION

The parties dispute the meaning of only four terms in two related patents, i.e., U.S. Patent Nos. 6,512,298 (the “’298 Patent”) and 6,852,616 (“the ’616 Patent”) (collectively, the “Asserted Patents”), both generally directed at signal transmission between a semiconductor device and external equipment. ’298 Patent 2:36-40. Two of the disputed terms vaguely reference “thin” or “thick” films and a third references a material property of “repelling,” without sufficient indicia of how to discern what falls within the scope of the claim thus rendering these terms indefinite. Samsung’s constructions for the remaining disputed terms reflect their plain meaning in view of the specification’s description of the alleged invention, and should therefore be adopted. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc).

Tessera, on the other hand, tries to rewrite the claim language narrowly in certain respects to bolster validity arguments and broadly in other respects to bolster its infringement arguments. For example, Tessera argues the claims are limited to a specific type of packaging—wafer level chip scale package (“WLCSP”)—with an eye towards distinguishing certain prior art references not limited to the WLCSP field. Tessera seeks to import this limitation by construing the terms “external electrode” and “external electrode terminal” to have a specific relationship to a “package.” But the plain language of the claims, the specification, and the prosecution history all demonstrate that the claims are not so limited. Neither the claims nor the specification limits the claimed subject matter to WLCSP or any other type of package, and instead uses the broader term “semiconductor device.” Indeed, the specification barely uses the word “package” and never claims to invent WLCSP. Lacking intrinsic support, Tessera relies on made-up illustrations that do not appear anywhere in the specification or file history.

Tessera’s attempt to rewrite the claims does not end there. Tessera argues that the claims’ readily understood requirement that a conductive film must “fill up” an opening in an

insulating film should be broadened to cover a film that does **not** “fill up” the opening. Tessera does so with an eye towards making an infringement argument that products that merely “plug” or “span” some portion of the claimed opening still infringe. To support its attempt to alter the claim term’s plain meaning, Tessera relies on made-up figures that do not accurately reflect the patents’ description of what it means to “fill up” the opening. Tessera also cherry picks out-of-context dictionary definitions, in one case citing a definition of the sole word “fill” in a dentistry context and ignoring the same dictionary’s definition of the phrase “fill up” (i.e., the disputed term) that contradicts Tessera’s proposed construction.

Tessera resorts to similar flawed analyses in arguing that the term “a protective film . . . having a property of repelling conductive material” is not indefinite. Tessera points to no intrinsic evidence providing guidance as the meaning of this term. Instead, Tessera argues that because the specification discloses a “solder resist film” as an example of a film having the property of “repelling conductive material,” the term is not indefinite. But the claims at issue do not recite a “solder resist film”—they broadly claim “a protective film . . . having a property of repelling conductive material.” Tessera cannot fix its indefiniteness problem by rewriting the claim to be limited to one disclosed example. *See, e.g., Berkheimer v. HP Inc.*, 881 F.3d 1360, 1363–64 (Fed. Cir. 2018) (one example in the specification that satisfies a vague claim limitation does not save a claim from being indefinite).

II. LEGAL STANDARD

The terms of a patent claim are interpreted “in light of the intrinsic evidence of record, including the written description, the drawings, and the prosecution history.” *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 711 F.3d 1348, 1360 (Fed. Cir. 2013).

“Courts cannot rewrite claim language.” *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383–84 (Fed. Cir. 2008). “When the claims are susceptible to only one

reasonable construction, [the Court] will construe the claims as the patentee drafted them.” *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215 (Fed. Cir. 2008); *Berkheimer*, 881 F.3d at 1363–64. While a “patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope,” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012), “[h]aving done so, [the patentee] must live with the language it chose.” *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1583 (Fed. Cir. 1996).

A patent must be “precise enough to afford clear notice of what is claimed, thereby ‘appris[ing] the public of what is still open to them.’” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129–30 (2014). A “term of degree fails to provide sufficient notice of its scope if it depends ‘on the unpredictable vagaries of any one person’s opinion.’” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

III. THE DISPUTED CLAIM TERMS

A. “external electrode” (’298 Claim 1, ’616 Claim 1) and “external electrode terminal” (’298 Claim 8, ’616 Claim 9)

Claim Term	Samsung’s Proposal	Tessera’s Proposal
“external electrode”	portion of a conductive pattern configured to contact an “external electrode terminal” (as defined below) or external equipment	electrode for connecting [a/the] package to external equipment
“external electrode terminal”	metallic ball, conductive bump, or a portion of the [first/second] external electrode, configured to connect to external equipment ¹	“terminal on the outer surface of the package for connection to external equipment”

The parties’ dispute as to these two related limitations largely focuses on Tessera’s improper attempt to limit claims to WLSCP by requiring a “package” to be connected to external equipment. D.I. 102 at 12-13 n.5. Samsung’s constructions properly use the specification’s

¹ In its opening brief, Tessera changed its proposed construction of “external electrode.” To further narrow and clarify the parties’ disputes in light of Tessera’s opening brief and changed proposed construction, Samsung similarly revises its proposed construction of “external electrode terminal.” Samsung previously proposed a construction of “metallic ball or conductive bump, configured to connect to external equipment.”

terminology to describe the structure covered by the disputed terms, and clarify for the jury that the “external electrode” contacts an external equipment directly or through an “external electrode terminal.” In contrast, Tessera attempts to rewrite the claim to require that a “package” be connected to external equipment. However, this theory is inconsistent with the claim language, which is directed to a broader “semiconductor device” (’298 Patent Claim 1) and a “method for producing a semiconductor device” (’616 Patent Claim 1). It also conflicts with the specification’s description of the alleged invention as relating to other aspects that “allow[] high-speed transmission of signals **between the semiconductor device** and external equipment” (’298 Patent 2:31–36),² as well as the prosecution history where the Examiner did not find the claims so limited. Tessera should not be allowed to rewrite the clear language of the claims to add a WLCSP requirement unsupported by any intrinsic evidence.

1. Samsung’s construction of “external electrode” is consistent with the intrinsic evidence

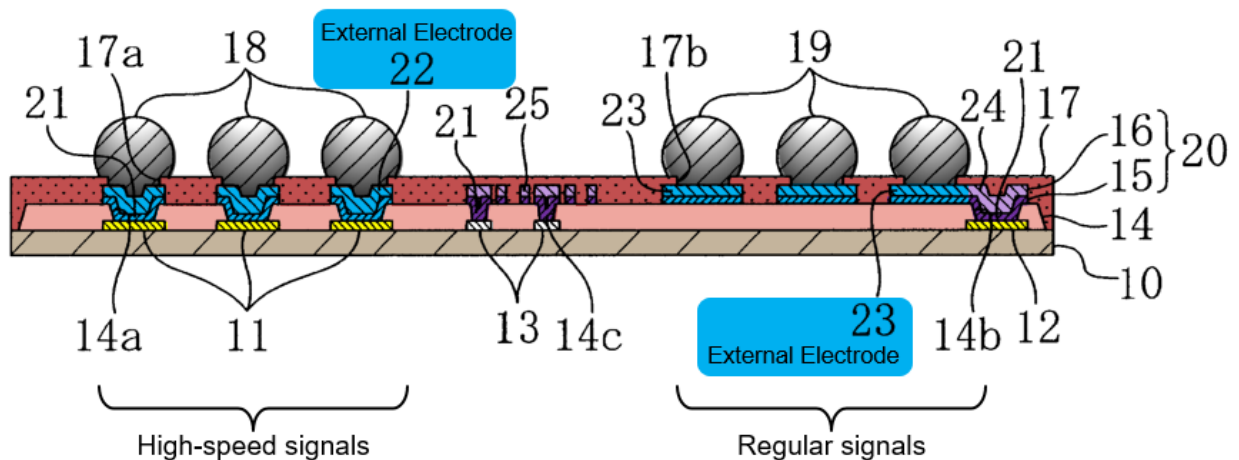
Samsung’s construction of “external electrode” is consistent with the claim language. Claim 1 of the ’616 Patent requires steps of forming a conductive pattern (the fourth, fifth, and sixth step) by “forming first . . . thin conductive film . . .” (fourth step), “forming a second, thick conductive film selectively on the first, thin conductive film” (fifth step), and “**patterning** the first and second conductive films . . . **thereby forming a first external electrode . . . forming a second external electrode** and forming a connecting wire” (sixth step). ’616 Patent Claim 1. Thus, the claim language makes it clear the “external electrode” is a portion of a conductive pattern. At no point does the claim language tie “external” electrodes to packaging, or distinguish “external” electrodes from “internal” electrodes based on their location relative to packaging as Tessera’s rewrite suggests.

The specification similarly supports Samsung’s construction by describing the “external

² All emphases in quotations are added unless indicated otherwise.

electrode” as being formed from a conductive pattern. *See* ’298 Patent 3:33–36, 3:44–48, 5:62–65, 6:6–9 (each reciting “the conductive pattern such as the external electrode”). This requirement is grounded in the specification, which explains that “according to . . . **the present invention**, the first external electrode, the second external electrode and the connecting wire are formed easily **by patterning a conductive film** formed on the semiconductor substrate **to integrally form the first external electrode, the second external electrode, and the connecting wire**.” *Id.* at 3:12-18. The specification states that patterning the conductive film to integrally form the external electrodes and the connecting wire provides a benefit of reducing manufacturing costs. *See, e.g., id.* at 3:12-18, 5:34-36, 11:39-47. Figure 2 below (annotated) shows the “conductive patterns” that contain the “external electrode” (which includes “a thin metal layer 15 made of a laminate including a TiW film . . . and a thick metal layer 16 made of a Cu film”). *Id.* at 8:4–10.

Figure 2



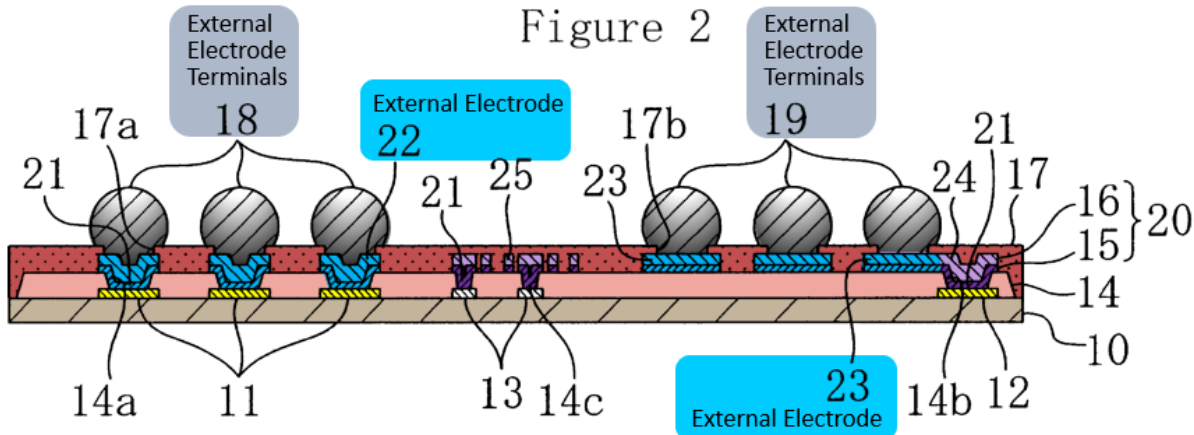
Consistent with the specification, Samsung’s construction makes clear that the “external electrode” may only be *a portion* of the “conductive pattern.” As shown in Figure 2 above (annotated), the “conductive pattern” 20 includes multiple portions: “land” portions 23 (blue) that contact the solder balls, “wire” portions 24 (dark and light purple), and “pad” portions (portion of the dark purple) that connect to the yellow “element electrodes” 14a and 14b. ’298

Patent 8:11–19 (“The conductive patterns 20 include a plurality of pads . . . connected to the element electrodes 11 to 13, a plurality of lands for high-speed signals 22 . . . a plurality of lands for regular signals 23 . . . [and] a plurality of connecting wires 24.”), 1:29–2:12, Figs. 1–2 and 5. But the specification makes clear that only the “land” portion of the “conductive pattern” is the claimed “external electrode”:

The lands for high-speed signals 22 serve as first external electrodes for input and output of signals between the element electrodes for high-speed signals 11 and external equipment. **The lands for regular signals 23 function as second external electrodes** for input and output of signals between the element electrodes for regular signals 12 and external equipment.

Id. at 8:26–33.

Insofar as Tessera implies that Samsung errs in reading the term “external” electrode so broadly as to cover internal electrodes as well, it ignores other aspects of Samsung’s proposed construction. Namely, Samsung’s construction of “external electrode” gives meaning to the word “external” by requiring that it be configured to contact an “*external* electrode terminal” or “*external* equipment.” This is consistent with the specification’s disclosure of the first and second “external electrodes” (*i.e.*, regions of the “conductive patterns,” such as the “lands”) being exposed through a solder resist film such that they can contact “external electrode terminals.” *Id.* at 8:34–48. Figure 2 below (annotated) shows that the first and second “external electrodes” contact the first and second “external electrode terminals.” Alternatively, the specification explains that the “external electrode” may contact “external equipment” without the intervening “external electrode terminal.” *Id.* at 4:19–28, 11:64–12:1. Samsung’s proposed construction properly allows for both possibilities. Indeed, the contact between these elements is described by the specification as enabling a benefit of the alleged invention. According to the specification, this direct connection to the external electrode or external equipment prevents electrical short circuits and increases reliability. *Id.* at 11:21–39.



2. Samsung's construction of "external electrode terminal" is based on the intrinsic evidence

Samsung's proposed construction of "external electrode terminal" to mean "metallic ball, conductive bump, or a portion of the [first/second] external electrode, configured to connect to external equipment" comes directly from the intrinsic evidence and reflects the proper claim scope. By contrast, Tessera improperly seeks to read in a "package" requirement.

The specification supports Samsung's construction by consistently explaining that "metallic balls" are used as the "external electrode terminals." See '298 Patent 8:41–45 ("A plurality of first external electrode terminals 18 formed of metallic balls . . . are formed immediately above the lands for high-speed signals 22."); 8:45–48, 11:35–39 (referring to the "external electrode terminals" as "metallic balls"). The specification also identifies only two other options that may be used in place of the metal balls, conductive bumps or a portion of the land (i.e., which as a portion of the external electrode):

In an embodiment of the present invention, the **metallic balls are used as the first external electrode terminals 18 and the second external electrode terminals 19.** Instead, **conductive bumps or a portion of the land** for high-speed signals 22 and a portion of the land for regular signals 23 may be used.

Id. at 11:64–12:1; *see also* 4:19–28 ("[I]t is possible to use metallic balls, conductive bumps or a portion of each of the first external electrodes and the second external electrodes as the first and

second external electrode terminals.”); Ex. 7³ (Decl. of Pradeep Lall) ¶¶47-48. Samsung’s proposed construction covers all three options, i.e., the metallic ball, the conductive bump, or a portion of the external electrode, and therefore appropriately captures the scope of this limitation. *See Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (“a fuel injection system component” is limited to fuel filters and not extending to other fuel injection system components such as fuel-line connectors because “fuel filter was the only component of a[] [claimed] system that the written description disclosed as [meeting the claim requirement]”).

As discussed above with regard to “external electrode,” Tessera also incorrectly argues Samsung’s proposed constructions of “external electrode” and “external electrode terminal” render the word “external” meaningless by permitting the claims to read on an “internal” electrode. D.I. 102 at 13. To the contrary, the word “external” in the claim terms refers to the fact that the claimed electrode and electrode terminals connect a “semiconductor integrated circuit” to a device external to the “semiconductor integrated circuit.” Ex. 7 ¶38. For example, the specification makes clear that the alleged invention is directed to connecting a “semiconductor integrated circuit” to external equipment (i.e., equipment outside the “semiconductor integrated circuit”). *See, e.g.*, ’298 Patent 1:6–13 (“The present invention relates to a semiconductor device . . . that has a built-in integrated circuit section used for information communication equipment or electronic equipment for offices and allows a high-density packaging provided with wires or electrodes that **connect the semiconductor integrated circuit section to the terminals of external equipment**”)⁴; Ex. 7 ¶¶38-39.

³ “Ex. 7” refers to Exhibits to the Declaration of John C. Kappos, unless otherwise noted.

⁴ *See also* ’298 Patent 2:26–29 (in the applicant-admitted prior art, “high-speed transmission of signals **between the semiconductor device and external equipment** becomes difficult”), 2:31–36 (the stated goal of the alleged invention is to “allow[] high-speed transmission of signals **between the semiconductor device and external equipment**”); 2:63–65, 5:13–15, 10:28–30 (each referring to “transmission of signals **between the semiconductor device and external equipment**”).

Tessera's attempts to rely on third-party patents⁵ for the proposition that others have allegedly used the term "external electrode terminals" in connection with electrodes outside a "package" is misplaced. D.I. 102 at 12. First, the patents Tessera cites are entirely unrelated to the Asserted Patents. Second, to the extent usage in the industry is consulted, that evidence is, at best, ambiguous because there are other third-party patents that use the term "external electrode" consistent with Samsung's proposed construction. *See, e.g.*, Ex. 6 (U.S. Patent No. 5,604,379) (describing solder balls connecting a semiconductor chip to a package substrate as "external electrode"); Ex. 7 ¶39. Samsung's construction correctly encompasses the electrodes that connect a semiconductor integrated circuit to equipment external to it. *See* Ex. 7 ¶¶47-48.

Tessera also argues Samsung's proposed constructions of "external electrode" and "external electrode terminal" improperly import limitations from the dependent claims into independent claims. D.I. 102 at 15. Not so. There is no claim differentiation problem because each dependent claim narrows the independent claim to only a subset of the possible structures. For example, Samsung's construction of Claim 1 permits the "external electrode" to contact the "external electrode terminal" or "external equipment" without an intervening external electrode terminal. *See* '298 Patent 4:19–28, 11:64–12:1. Claim 8 has narrower scope, requiring the "external electrode terminal" be present. Claims 10, 11, and 12 are again narrower than Claim 8, each claiming only a subset of the exemplified "external electrode terminals." That each of the dependent claims cited by Tessera falls within the scope of Samsung's proposed construction of the independent claim, as they must, does not mean Samsung improperly "import[ed] limitations from the dependent claims" as Tessera suggests.

3. Tessera's proposed constructions conflict with the intrinsic evidence and are indefinite

Tessera proposes to limit "external electrode" to an electrode "for connecting [a/the]

⁵ For example, U.S. Patent Nos. 7,298,045 and 9,640,499, U.S. Patent App. 2005/0194686. *See* D.I. 102 at 12.

package” to external equipment, and “external electrode terminal” only to terminals “on the outer surface of the **package**.” By injecting the word “package” into these constructions, Tessera attempts to limit the claims to WLCSP structures and thereby distance the claims from certain prior art identified by Samsung, including “flip chip” prior art. *See* D.I. 102 at 12–13.

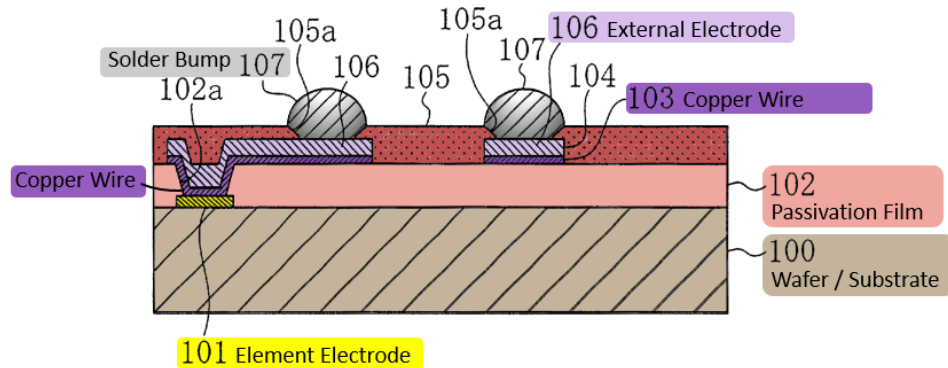
a. Tessera’s constructions are unsupported by the claims, specification, and file history

Nowhere in any of the claims is the term “package” found. Instead, the claims recite a “semiconductor device”—not a package—and the specification states that the claims are not limited to a particular application. ’298 Patent Claim 1, 13:14-22; ’616 Patent Claim 1.

The specification also does use the term “package” to limit the alleged invention. In the few instances where the specification uses the word “package,” the term is used while discussing the general technological background. For example, the word “package” is used in the Background of the Invention to state that the present invention is an improved “semiconductor device” that “**allows** a high-density packaging provided with wires or electrodes.” ’298 Patent 1:6-13. Contrary to Tessera’s arguments, this passage does not define the claimed invention as a “package,” nor does it limit patent scope to a particular style of package. *See id.*

All other references to “package” describe a prior art Japanese patent publication (’298 Patent 1:14–22) or the admitted prior art shown in Figure 5 below (annotated) (*id.* at 1:23–2:20). In both cases, the word “package” is used in the context of the marketing name for a prior art semiconductor packaging technique—“Chip Size Package” or “CSP.” *Id.* at 1:5–2:29.

Figure 5
Prior Art



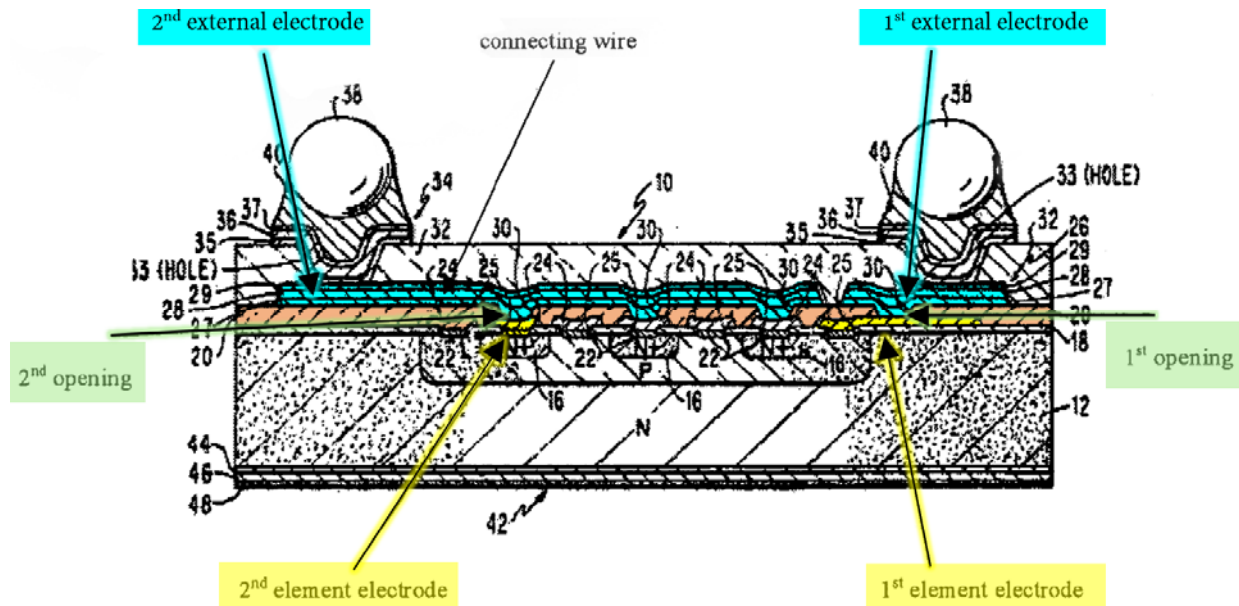
The specification never uses the word “package” to describe the alleged invention. Nor does the specification limit the claimed invention to CSP, WLCSP, or any other type of semiconductor package. *See id.* There is nothing in the intrinsic evidence that requires the “external electrode” or “external electrode terminal” to have any particular location relative to the “package.” And as discussed above, the patent never describes connecting any “package” to external equipment as Tessera’s proposed construction of “external electrode” would require. *See* Section III.A.2.

Tessera’s proposed construction would also improperly exclude certain embodiments. For example, as discussed in Section III.A.1, the specification discloses an embodiment where a “portion of . . . the external electrode” forms the “external electrode terminal.” ’298 Patent 4:19–28, 11:64–12:1. Tessera’s construction excludes this embodiment because the “external electrode” is located below the “solder resist film 17” and is not “on the outer surface of a package” as proposed by Tessera. Tessera’s proposed constructions are therefore unsupported by the claims and the specification and should be rejected.

b. Tessera’s construction conflicts with the prosecution history

The prosecution history does not support Tessera’s attempt to import a “package” limitation into the claims. In fact, the PTO plainly read the claims more broadly during

prosecution. During the '616 Patent's prosecution, the Examiner rejected the pending claims as anticipated by U.S. Patent No. 3,461,357 ("Mutter"). The Examiner mapped the claim elements, including the first and second "external electrode[s]," to Figure 1 of Mutter:



Examiner's Annotated Mutter Figure 1

Ex. 1 ('616 ⁶ FH, Office Action dated 12/31/2003) at 5 (annotations added by Examiner; highlight added by Samsung). For the “external electrode” elements, the Examiner identified portions of “conductive film 27, 28, 29,” which is described by Mutter as a “second level metallurgy” of the “integrated circuit devices”. *Id.* at 4; Ex. 2 (Mutter) at 3:3–7, 3:26–29; Ex. 7 ¶56. This “second level metallurgy” is part of the “integrated circuit devices” and “function[s] as an interconnection between active regions of the device and external connections.” Ex. 2 at 1:66-68; Ex. 7 ¶56. Mutter does not describe his device in relation to any particular “package.” *See id.*; *see also* Ex. 7 ¶57. Nevertheless, the Applicant did not attempt to distinguish Mutter on the basis that the disclosed “external electrode[s]” did not connect a “package” to external equipment. Nor did the Applicant argue that Mutter does not teach a WLCSP device. Instead,

⁶ See *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (statements made during prosecution of later issued patent may limit the same term in the earlier issued patent); *Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.*, 265 F.3d 1294, 1305 (Fed. Cir. 2001) (“The prosecution history of a related patent can be relevant if, for example, it addresses a limitation in common with the patent in suit.”).

the Applicant amended the claims to include a further limitation to the manufacturing processes and thus acknowledged that the “lamine layers 27, 28 and 29” form an “interconnect” of the chip and can be mapped to the “external electrode.”⁷ Ex. 3 (’616 FH, Amendment dated 6/1/2004) at 2.

Thus, the prosecution history demonstrates “how the PTO and the inventor understood the patent,” i.e., the Examiner and Applicant both understood an “external electrode” need not connect the “package” to external equipment. *Phillips*, 415 F.3d at 1317.

c. Tessera’s proposed constructions render the claim terms indefinite

Tessera’s proposed constructions depend on the uncertain boundary of a “package” and therefore would render the claim terms indefinite. Tessera’s unsupported “annotation” to Figure 2 arbitrarily draws a line between a “package” and a “die,” and does not remedy this deficiency. *See* D.I. 102 at 11. Moreover, the patent never differentiates between the components considered part of the package and the components considered part of the silicon chip. *See* ’298 Patent 1:26–52, Fig. 5. For example, Figure 5, which illustrates “a conventional wafer level CSP,” draws no distinction between the “package” and a “die.” *See id.* Even Tessera acknowledges that the specification section it relies on for this arbitrary distinction only states that the “external electrode” connects the “semiconductor integrated circuit section”—not a “package”—to the external equipment:

As shown and described in the specification, the external electrodes are used for connecting the package to external equipment. (*See, e.g., id.* at 1:7-13 (describing “electrodes that connect the **semiconductor integrated circuit section** to the terminals of external equipment”), 8:26-32.)

D.I. 102 at 11. This is not surprising since there is no objective boundary where the “package”

⁷ The Applicant added limitations that the thin conductive film be formed to be continuous, that the thick conductive film be formed selectively, and that the patterning of the conductive films be selective to form the external electrode. Ex. 3 (’616 FH, Amendment dated 6/1/2004) at 2. None of these added limitations refers to a “package” or requires an “external electrode” to connect a “package” to external equipment.

starts and the “semiconductor device” ends. Ex. 7 ¶59. A person of ordinary skill in the art would not have been able to draw a clear line between when an electrode connects a “semiconductor device” but not a “package” to an external equipment. Ex. 7 ¶59. Reading the claims in light of the specification would not provide any way of resolving this ambiguity because, as discussed above, the specification never provides a description of a “package.” *Id.*

In addition, the phrase “for connecting . . . to external equipment” in Tessera’s construction also is unclear, and is in some respects too narrow and in other respects too broad. This proposed construction could be interpreted as requiring a direct connection between an external electrode and external equipment. Under this narrow interpretation, Tessera’s construction would improperly exclude embodiments in which an “external electrode” connects to external equipment through an intervening “external electrode terminal,” such as a solder ball. *See, e.g.,* ’298 Patent 8:27–48, 4:19–28. Moreover, it would render Claim 8 of the ’298 Patent redundant by requiring the formation of “external electrode terminal[s]” that are “immediately above” the “external electrode[s].” *Id.* at Claim 8. If, on the other hand, this claim language is interpreted as requiring that an electrode serve the general purpose of “connecting to external equipment,” then Tessera’s construction is overly broad. Each component of the disclosed electrodes—including the “element electrodes,” the “external electrodes,” and the “external electrode terminals”—serves the ultimate purpose of connecting to external equipment. Indeed, under this broad interpretation, structures such as the solder balls or conductive bumps could also be considered “external electrodes” since they are used, either indirectly or directly, for connecting to external equipment. Thus, Tessera’s construction is either too narrow for excluding an embodiment or too broad for encompassing structures clearly not “external electrodes.”

Samsung’s constructions avoid the ambiguity in Tessera’s construction by requiring the

“external electrode” to be configured to **contact** either an “external electrode terminal” or “external equipment.” Samsung’s proposed constructions add clarity to the claim term by defining the claim term in the context of the invention using structural descriptions from the specification. In contrast, Tessera’s constructions attempt to import the ambiguous concept of a “package” from the patent’s description of prior art technology while failing to define what structure constitutes an “external electrode” or an “external electrode terminal.”

B. “forming a second, thick conductive film selectively on the first, thin conductive film so as to fill up the first opening and the second opening” (’616 Patent Claim 1)

Samsung’s Proposal	Tessera’s Proposal
Indefinite as to “a second, thick conductive film selectively on the first, thin conductive film” Plain and ordinary meaning for the remainder of the term	Plain and ordinary meaning, which includes: “forming a second, thick conductive film selectively on the first, thin conductive film so as to <i>plug or span</i> the first opening and second opening.”

There are two disputes relating to this term. First, Samsung contends that “thin” and “thick” are terms of degree without sufficient indicia in the intrinsic record of how to discern what falls within the scope of the claims, thereby rendering the terms indefinite. Aside from stating that the limitation as a whole is not indefinite because the term “selectively” is not indefinite, Tessera does not take a position on this issue.⁸ Second, the parties disagree over whether the phrase “fill **up**” means what it says (as Samsung contends) or should be rewritten as “plug or span” an opening—i.e., a **partial** fill (as Tessera contends).

1. The “thin” and “thick” limitations are indefinite

Samsung contends that the term requiring “a second, thick conductive film [be formed] selectively on the first, thin conductive film” is indefinite because the intrinsic evidence fails to

⁸ During a meet-and-confer conducted on June 19, 2018, Samsung informed Tessera that Samsung considers the “thick” and “thin” aspects of this term to be indefinite. Insofar as Tessera nonetheless attempts to address these aspects for the first time in its reply brief thus depriving Samsung of a meaningful opportunity to respond, Samsung reserves the right to seek appropriate relief from the Court.

inform, with reasonable certainty, a person of ordinary skill in the art how to differentiate between a “thick . . . film” and a “thin . . . film.” See *Nautilus*, 134 S. Ct. at 2129. Tessler, on the other hand, ignores Samsung’s position by addressing a different term, “selectively.”

The Federal Circuit has repeatedly explained that “a term of degree fails to provide sufficient notice of its scope if it depends on the unpredictable vagaries of any one person’s opinion.” *Interval Licensing*, 766 F.3d at 1371. The phrases “thin conductive layer” and “thick conductive layer” suffer from this fatal flaw, and the intrinsic evidence provides no guidance as to how to determine when a conductive layer is “thick” or “thin” in the context of the Asserted Patents. The claims themselves do not limit the terms with any particularity. See, e.g., ’616 Patent Claims 1-10. And the specification only provides a single example of film thicknesses, without ever disclosing where “thin” ends and “thick” begins:

[A] thin metal layer 15 made of a laminate including a TiW film having a thickness of, for example, about 0.2 μm , and a Cu film having a thickness of, for example, about 0.5 μm and a thick metal layer 16 made of a Cu film having a thickness of, for example, about 10 μm are formed on the low elastic modulus layer 14 including the openings 14a to 14c.

’298 Patent 8:4–10; see also 9:11–17, 9:26–32 (repeating same numbers). Thus, the only examples in the specification are a “thin” layer having a total thickness of 0.7 μm (0.2 μm TiW plus 0.5 μm Cu) and a “thick” layer of “about 10 μm .” See *id.*

The specification’s lone example is insufficient to define this claim term. For example, there is no explanation of whether a layer thickness between 0.7 μm and 10 μm should be considered “thin” or “thick.” The specification also does not explain, for example, whether a 5 μm layer would qualify as a “thin” film, a “thick” film, or both. Thus, a member of the public who wants to avoid forming a “thin” layer would not know how far above 0.7 μm the layer must be to bring the structure outside the scope of the claims. As the Supreme Court explained, “a patent must be precise enough to afford clear notice of what is claimed, thereby ‘appris[ing] the

public of what is still open to them.” *Nautilus*, 134 S. Ct. at 2129–30. The ’616 Patent fails to provide that required notice, and it instead creates a “zone of uncertainty” surrounding the claim language. *See id.*; *see also Interval Licensing*, 766 F.3d at 1370–74.

Moreover, because the thickness dimensions provided in the specification are described as “examples,” they cannot define the metes and bounds of the term. *See Interval Licensing*, 766 F.3d at 1370–71. In *Interval Licensing*, the Federal Circuit examined whether a claim that required a system to display content in an “unobtrusive manner” was indefinite. The specification provided an example of such “unobtrusive” display—presenting information “in an unobtrusive manner that does not distract the user from the primary interaction with the apparatus (*e.g., the information is presented in areas of a display screen that are not used by displayed information associated with the primary interaction with the apparatus*).” *Id.* at 1373 (emphasis original). The Federal Circuit found this single example did not save “unobtrusive manner” from being indefinite because “a person of ordinary skill in the art would not understand the ‘*e.g.*’ phrase to constitute an exclusive definition of” the term. *Id.* at 1373–74.

Similarly, here, the ’616 Patent’s specification uses the phrase “for example” to describe the only dimensions provided for the “thin” and “thick” layers. *See* ’616 Patent 8:8–14 (“Conductive patterns 20 including a thin metal layer 15 made of a laminate including a TiW film having a thickness of, **for example**, about 0.2 μm , and a Cu film having a thickness of, **for example**, about 0.5 μm and a thick metal layer 16 made of a Cu film having a thickness of, **for example**, about 10 μm are formed . . .”). As in *Interval Licensing*, a person of ordinary skill in the art would not have understood a single exemplary dimension for each of “thin” and “thick” to constitute an exclusive definition of “thin” and “thick,” especially in view of the large gap between 0.7 μm and 10 μm . Ex. 7 ¶63. Thus, just like the term “unobtrusive manner” in *Interval Licensing*, the terms “thin” and “thick” are indefinite because the intrinsic evidence

provides only one example and lacks any guidance as to the term's objective boundaries.

The terms “thick” and “thin” are also indefinite because they are context specific. “Thick” and “thin” are relative terms—the same layer thickness could be considered “thin” in one context, but “thick” in another context of technology process nodes, equipment, or application. Ex. 7 ¶64. Because the Asserted Patents' specifications do not define these terms with sufficient precision to ascertain “thick” dimensions and “thin” dimensions in the context of the claimed semiconductor devices, they are indefinite. *See Icon Health & Fitness, Inc. v. Polar Electro Oy*, 656 F. App'x 1008, 1014-15 (Fed. Cir. 2016) (“in-band” and “out-of-band” are indefinite because they are relative terms whose meanings differ depending on context and “there is no reference provided in the specification to teach a person of ordinary skill what constitutes an in-band communication versus an out-of-band communication”).

Applying *Nautilus*, this Court also found other similar limitations to be indefinite. In *Semcon IP Inc. v. Huawei Device USA Inc.*, this Court found the term “relatively short messages” to be indefinite because the patent did not provide an objective standard for differentiating between short and long messages. No. 2:16-cv-00437-JRG-RSP, 2017 WL 2972193, at *25 (E.D. Tex. July 12, 2017). This Court noted that a specification passage describing “relatively short” by a wait time that is not “inordinately long” merely shifted the uncertainty rather than resolving it as there was no guidance regarding what was “inordinately long.” *Id.*; *see also Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, No. 12-2692 (JRT/LIB), 2016 WL 6832623, at *14–17 (D. Minn. Nov. 18, 2016) (holding that “normal operating conditions” and “low temperature operating conditions” are indefinite because the specification provides “no references to any temperature ranges or numerical values, or any boundaries to distinguish normal from abnormal or low temperature from any other temperature.”). Similarly, because the '616 Patent's specification does not provide any

boundaries that can distinguish between “thin” and “thick” films, the terms lack discernible objective boundaries and are indefinite.

Contrary to Tessera’s arguments, the fact that Samsung pointed to prior art references as satisfying the “thin conductive layer” and the “thick conductive layer” limitations in its petition for *inter partes* review is irrelevant to whether the claim is indefinite. D.I. 102 at 18. Samsung pointed to prior art references that describe “thin” and “thick” layers in the same level of detail as provided in the Asserted Patents. While Samsung respectfully submits such disclosure is not sufficient to render the claims definite, it is entirely appropriate for Samsung to present the PTO with prior art references that contain the same level of disclosure as the Asserted Patents.

For example, in *Interval Licensing*, the defendants filed a request for reexamination over certain prior art references that included the same embodiments described in the challenged patent’s specification. 766 F.3d at 1367-69. After reviewing the record of the reexamination, the Federal Circuit concluded that the term “unobtrusive manner” is still indefinite because “the wallpaper embodiment does not provide a reasonably clear and exclusive definition, leaving the facially subjective claim language without an objective boundary.” *Id.* at 1373. As in *Interval Licensing* Samsung asserts a prior art invalidity defense using a reference that teaches the embodiments disclosed in an asserted patent’s specification while simultaneously maintaining an indefiniteness challenge. *See id.*

Because the patents provide no objective boundaries for terms of degree, it is impossible to determine the scope of these “thin” and “thick” limitations. Thus, the claim term “a second, thick conductive film selectively on the first, thin conductive film” fails to “appris[e] the public of what is still open to them” and is therefore indefinite. *See Nautilus*, 134 S. Ct. at 2129–30.

2. The plain and ordinary meaning of “fill up” cannot be rewritten as “plug or span” to allow partial filling

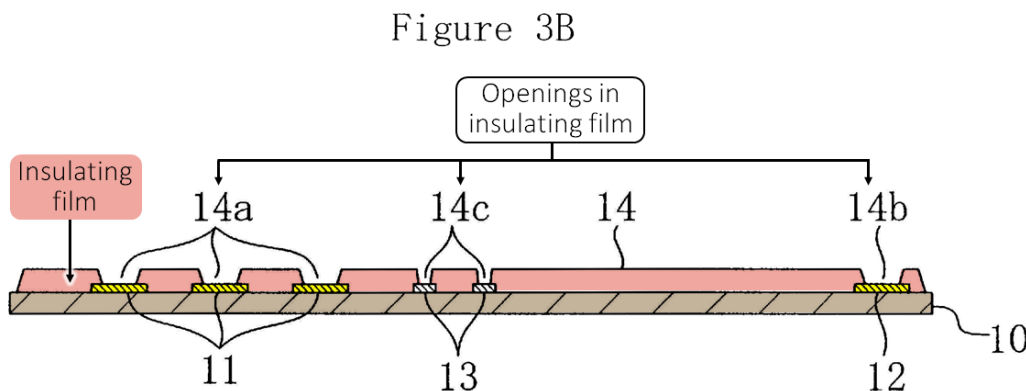
The dispute here is simple: whether “fill **up**” means what it plainly says or whether “fill

up” allows partial filling such that the word “up” is rendered meaningless. Samsung submits that “fill up” is a lay term with a well-understood meaning the jury could apply without construction. Tessera, on the other hand, relies on drawings that do not appear in the Asserted Patents and cherry picks dictionary definitions out of context to justify rewriting the claims.

a. The Asserted Patents use the phrase “fill up” according to its plain and ordinary meaning

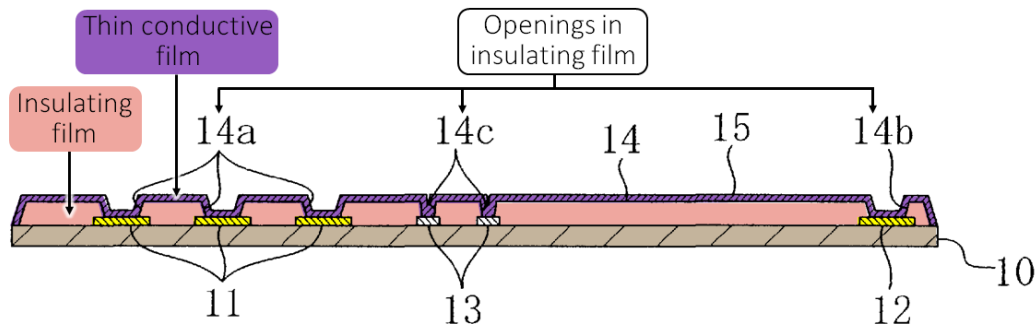
Tessera concedes that the term should be given its plain and ordinary meaning. D.I. 102 at 15. That concession should end the dispute. But Tessera nevertheless proposes a construction that changes the words “fill **up**” to “plug or span,” thereby fundamentally altering the meaning of the claim language. As demonstrated by its opening brief, Tessera’s construction is not supported by either the intrinsic or the extrinsic evidence, but is driven by its goal to maintain an infringement claim against accused devices in which the metal layer only partially fills openings in an insulating film. *See* D.I. 102 at 16. To support this result-driven construction, Tessera misstates the patent’s disclosures and alters its figures.

The specification and figures disclose that the phrase “fill up” is used for its ordinary meaning. Figure 3B, reproduced below with annotation, illustrates an example of the claimed insulating film with openings 14a, 14b, and 14c formed to expose the element electrodes:



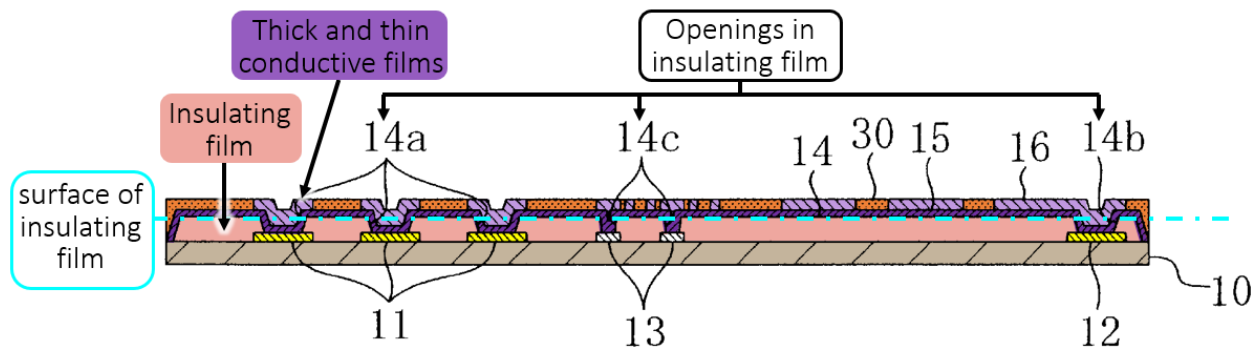
’298 Patent 8:59–9:5. Figure 3C below (annotated) illustrates the formation of a first conductive layer—a “thin metal layer 15”—over the entire surface:

Figure 3C



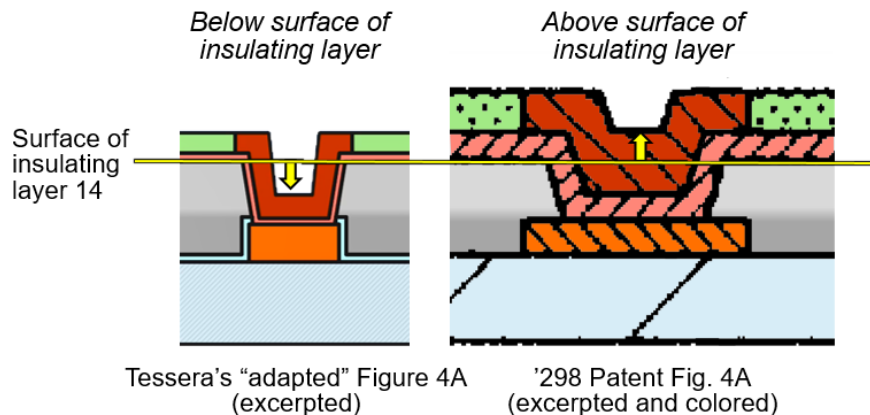
Id. at 9:11–17. While this “thin metal layer” spans the entire surface of the semiconductor device, including the openings 14a, 14b, and 14c created in the insulating film, the specification never describes this first layer alone as “fill[ing] up” the openings in the insulating film. *See id.* Next, after the addition of a photosensitive mask, Figure 4A below (annotated) illustrates the addition of a second conductive film—a “thick metal layer 16.” It is “thick metal layer 16” that is said to “fill up” the openings in the conductive film:

Figure 4A



Id. at 9:26–32. The light blue dashed line illustrates that in this embodiment (as well as every other disclosed embodiment) the conductive film stack (i.e., thin and thick metal layers) “fills up” the openings in the insulating film. *See id.* The specification further describes this step as completing “a fourth step of forming a conductive film on the insulating film so as to **fill up** the first opening and the second opening.” *Id.* at 4:64–66. Consistent with the specification and drawings, the claims use the “fill up” phrase exclusively with formation of the “thick conductive film” on top of the “thin conductive film.” *See* ’616 Patent Claim 1.

Tessera's main argument appears to relate to layer thicknesses pieced together from various embodiments in the specification. Namely, Tessera argues that the thin conductive film and the thick conductive film have a thickness of $0.7\text{ }\mu\text{m}$ and $10\text{ }\mu\text{m}$, respectively, and that they are intended to "fill" a hole in an insulating layer that can have $50\text{ }\mu\text{m}$ thickness. Because $0.7\text{ }\mu\text{m}$ plus $10\text{ }\mu\text{m}$ is less than $50\text{ }\mu\text{m}$, Tessera contends that "fill **up**" must mean something other than actually filling **up** the hole. In support of this argument, Tessera presents a new drawing purportedly "adapted from Figure 4A," shown below. D.I. 102 at 20.⁹ Tessera's "adaptation" of Figure 4A, however, is more akin to fiction. First, the brown thick conductive layer that purportedly "fill[s] up" the hole in the gray insulating layer is shown as dipping far **below** the surface of the insulating film. In contrast, in the **actual** Figure 4A, the thick conductive layer is shown **above** that same surface—a critical distinction on the very issue in dispute because the patent figure shows what is meant by the term "fill up."

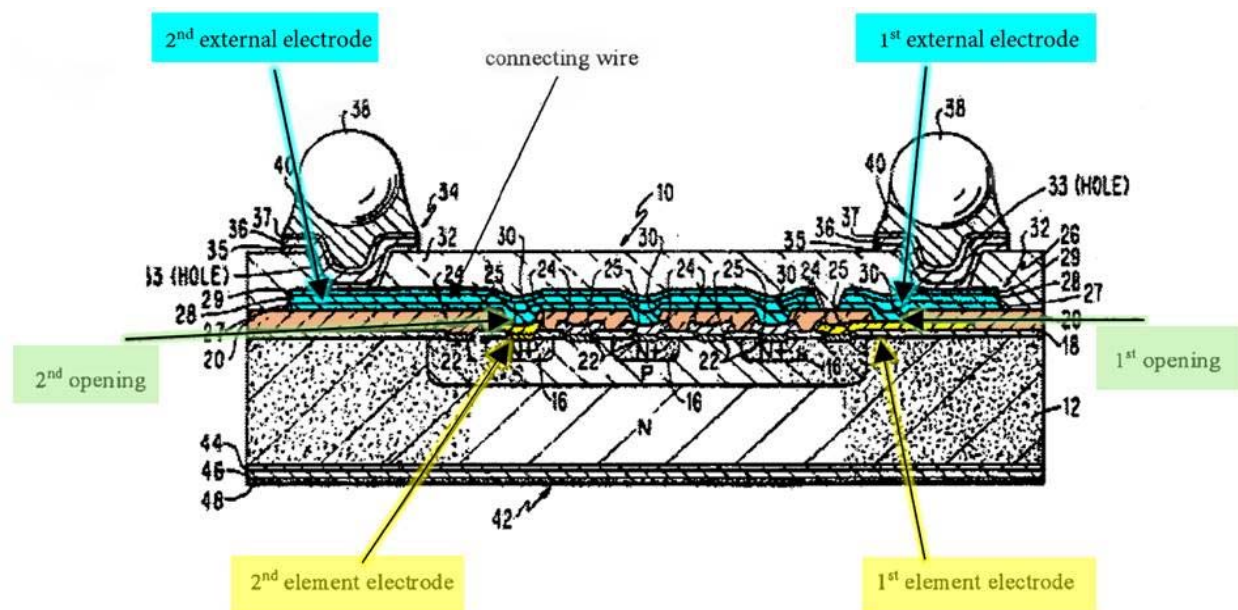


Tessera purports to rely on the $0.7\text{ }\mu\text{m}$, $10\text{ }\mu\text{m}$, and $50\text{ }\mu\text{m}$ thicknesses—pieced together from different embodiments—for the thin film, thick film, and insulating layer, respectively to create this "adaptation." But Tessera does not account for the thickness of the "plurality of element electrodes for high-speed signals 11," which also extends into the insulating film. '298

⁹ As an initial point, Samsung agrees with Tessera that patent drawings play a critical role in construing the claim language. See *Power Integrations*, 711 F.3d at 1360 ("We interpret the claim's words 'in light of the intrinsic evidence of record, including the written description, the drawings, and the prosecution history.'"); see also *Funai Elec. Co. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1371 (Fed. Cir. 2010) (rejecting construction inconsistent with patent figures).

Patent 7:46-8:1, Figs. 2-4D. Nor does it account for the fact that the specification discloses a broad range of thicknesses for the insulating layer, including thicknesses that will be “fill[ed] up” by the 10 μm thick conductive layer. Thus, while Samsung agrees with Tessera that weight should be given to Figure 4A in interpreting the “fill up” term, a POSA would look to the *actual* figure which compels the conclusion that “fill up” requires more than a partial filling.

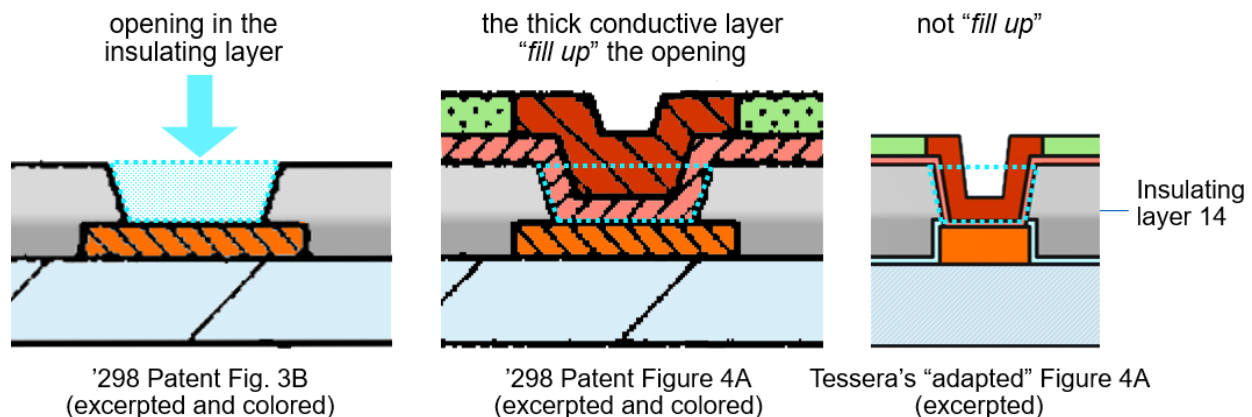
Samsung’s plain meaning construction is further supported by the prosecution history. As discussed above, the Examiner initially rejected the ’616 Application based on the Mutter reference. The Examiner noted with respect to the “fill up” term that “a fourth step of forming a conductive film 27, 28, 29 on the insulating film 20 . . . fill[s] up the first opening and the second opening” Ex. 1 (’616 FH, Office Action dated 12/31/2003) at 4. The figure of Mutter referenced by the Examiner, reproduced with annotations below, illustrates that the layers 27, 28, and 29 (shown in light blue) fill up the gap exposed in the passivation film 20 (light brown) over the element electrode (yellow) in the same way as the ’616 Patent. Thus, the file history supports Samsung’s plain interpretation of the claim language.



Examiner’s Annotated Mutter Figure 1
(annotations added by Examiner, colors added by Samsung)

b. Tessera's construction is unsupported by the intrinsic evidence and alters the plain meaning of the claim term

Tessera's proposed construction conflicts with the intrinsic evidence and would vitiate the distinction between the first deposition step (which does not fill up the openings but spans it) and the second deposition step (which fills up the openings). The words "plug" and "span" do not appear anywhere in the specification. *See generally* '298 Patent. Lacking any intrinsic evidence, Tessera relies on a figure purportedly "adapted from Figure 4A" but that does not appear anywhere in the intrinsic evidence. D.I. 102 at 17, 19. A side-by-side comparison of Figure 3B (showing the opening in the insulating layer), the actual Figure 4A (showing the thick conductive layer (dark brown), which "fills up" the opening), and Tessera's "adapted" figure shows how Tessera changed a crucial part of the patent figures to suit its proposed construction:

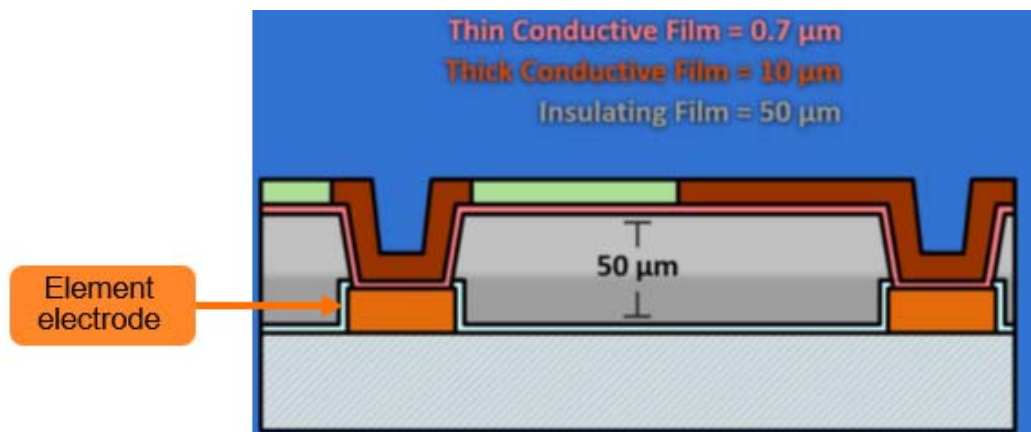


To support its "adapted" figure, which appears nowhere in the intrinsic evidence, Tessera pieces together incompatible dimensions from the specification. For example, Tessera argues that the combined thickness of the "thin" and "thick" metal layers—10.7 μm —in the disclosed embodiment is lower than the thickness of the surrounding insulating layer, which is allegedly described as "50 μm or more." D.I. 102 at 19–20. This argument fails for three reasons.

First, Tessera misstates the specification. In discussing the disclosed embodiments illustrated in the patent figures, the specification describes **only** an insulating layer thickness of "about 20 μm ." '616 Patent 8:63-67, 12:21-24. Tessera's citation to "50 μm or more" comes

from a portion of the specification stating that “it is also possible” to use alternative thicknesses. *Id.* at 12:24-31. However, the “50 μm or more” thickness is never used to describe any part of the patent figures, and it is not used in the same structure as the 10.7 μm metal thickness. A skilled artisan would have understood that the “50 μm or more” alternative thickness would require adjusting other elements’ dimensions to satisfy the “fill up” requirement. Ex. 7 ¶69.

Second, Tessera’s argument is based on an apples-to-oranges comparison. As shown in Figures 3B–4A, the “thin” and “thick” metal layers are stacked on top of “element electrode 11” to fill up the openings in the insulating film. *See* ’298 Patent Figs. 3B–4A. Tessera’s comparison of thicknesses ignores the “element electrode” thickness in the layer stack. Even Tessera’s own “adapted” Figure 4 shows that part of the thickness of the insulating layer (shown in gray, with annotation, “50 μm ”) is taken up by the element electrode (shown in orange, with no dimension disclosed). In the absence of any disclosure of the element electrode thickness, Tessera chose to draw the element electrode such that the thin and thick conductive layers do **not** “fill up” the first and second openings in the insulating film—in stark contrast to the actual figures of the patents. While the specification is silent on the thickness of the “element electrode,” a skilled artisan would have been able to deduce the “element electrode” thickness necessary to satisfy the “fill up” limitation using simple math. Ex. 7 ¶70.



Tessera’s Figure “adapted from Figure 4A” (“element electrode” annotation added)

Third, the specification discloses a wide range of possible thicknesses—a “range of 3 to 150 μm ”—for the insulating layer. *See* ’298 Patent 12:18–27. Thus, even ignoring the “element electrode” thickness, the specification discloses embodiments in which the thick metal layer 16 alone would “fill up” the opening in the insulating layer. *See id.*; Ex. 7 ¶71. Because “the claims of [a] patent need not encompass all disclosed embodiments,” there is no need to construe “fill up” in a way that contradicts its plain meaning. *See TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1108 (Fed. Cir. 1996); *Perdiemco, LLC v. Industrack LLC*, No. 2:15-cv-727-JRG-RSP, 2016 U.S. Dist. LEXIS 135667, at *26 (E.D. Tex. Sept. 21, 2016) (rejecting the argument that “every feature disclosed in the specification must be claimed”).

Tessera’s reliance on extrinsic evidence fares no better. Tessera’s proposed construction contradicts the dictionary evidence cited in its brief. Among the dictionaries cited by Tessera, the only one to define the complete phrase “fill up” is the Shorter Oxford English Dictionary (D.I. 102, Ex. 13), which defines the phrase as “make or become full to capacity, fill completely.” *Id.* at TATI-SAM-00011430. Tessera ignores this definition of “fill up” and instead relies on the 8th alternative definition of the word “fill” alone, which defines the word in the context of dentistry. *Id.* Elsewhere, Tessera cherry picks out-of-context definitions for only the word “fill,” ignoring more relevant definitions. *See, e.g., id.*, D.I. 102, Ex. 10 at TATI-SAM-00011144 (defining “fill” as “[t]o put into (a container, for example) **as much as can be held**”); D.I. 102, Ex. 11 at TATI-SAM-00011260 (defining “fill” as “[t]o supply or provide **to the fullest extent**”); D.I. 102, Ex. 12 at TATI-SAM-00011148 (defining “fill” as “to **put into as much as can be held** or conveniently contained”). Tessera fails to identify any evidence defining the entire phrase “fill up” as “plug or span,” or even suggesting the phrase encompasses a partial fill. *See id.* Thus, Tessera’s own extrinsic evidence demonstrates that its proposed

construction would alter the term’s plain meaning and remove “up” from “fill up.” *See Ethicon Endo Surgery*, 93 F.3d at 1583 (the patentee “need not have included [the specific] limitation in its claim” but “[h]aving done so, it must live with the language it chose”); *see also* Ex. 4 at SAMS232-0029041 (New Lexicon Webster Encyclopedic Dictionary of the English Language defining “to fill up” as “to make quite full”); Ex. 5 at SAMS232-0040417 (Webster’s II New College Dictionary defining “fill” as “to put into as much as can be held”).

Claim construction is unnecessary here because the jury can readily understand what it means to “fill up” an opening. And neither intrinsic nor extrinsic evidence provides any support for a definition of “fill up” that permits an opening to be “not fill[ed] up” as Tessera tries to do with its “plug or span” construction. Tessera’s proposed construction should be rejected.

C. “a protective film . . . having a property of repelling conductive material” (’298 Patent Claims 8 and 10) / “forming a protective film having a property of repelling conductive material” (’616 Patent Claims 8 and 9)

Samsung’s Proposal	Tessera’s Proposal
indefinite	Plain and ordinary meaning, no construction necessary.

In Samsung’s view, the final disputed term, i.e., “having a property of repelling conductive material,” renders certain dependent claims indefinite because the patent specification and claims do not specify what it means to “repel[] conductive material,” what “conductive material” must be repelled, or the degree of such repelling property a film must possess to meet this limitation. Tessera, on the other hand, argues the term is not indefinite, because there is one example—solder resist film—in the specification that has a property of repelling one type of conductive material—solder. The parties’ dispute thus centers on whether this singular example is sufficient guidance for a skilled artisan to discern what falls within versus outside the scope of the claim.

As a starting point, the intrinsic evidence provides no guidance for determining what “a property of repelling conductive material” is or means, and Tessera cited none in its brief. The

specification does not explain what conductive material must be repelled, nor does it specify an objective boundary of the degree to which a film must possess this property to satisfy this limitation. While the term “repelling conductive material” is used four times in the specification, it is used without any explanation as to the requirements of that property. For example, the specification repeats the claim language, describing “a protective film” that “cover[s] the first external electrode, the second external electrode and the connecting wire and having **the property of repelling a conductive material**” and “a protective film having **a property of repelling a conductive material** so as to cover the first external electrode, the second external electrode and the connecting wire.” ’298 Patent 3:65–4:2, 6:28–33; *see also id.* at 8:34–36, 11:20–23.

Tessera argues that the “protective film . . . having the property of repelling conductive material” would have been understood to have a plain and ordinary meaning, because the patent provides one example by describing a “solder resist film 17” that has the property of repelling solder. D.I. 102 at 21. But the applicant did not claim a “solder resist film.” Instead, the applicant chose to use broader claim language, reciting the use of “a protective film . . . having a property of repelling **conductive material**.” ’298 Patent Claims 8 and 10; ’616 Patent Claims 8 and 9. Having chosen to claim a much broader range of materials than “solder resist film,” Tessera cannot now escape indefiniteness by relying on one example discussed in the specification. *See Interval Licensing*, 766 F.3d at 1373–74 (declining to construe a term of degree by limiting it to the “lone example” in the specification and finding the term indefinite).

Berkheimer v. HP Inc. is instructive. 881 F.3d at 1363–64. In *Berkheimer*, the Federal Circuit found the term “minimal redundancy” indefinite, even though there was an example of an archive with “no redundancy” in the specification. *Id.* at 1364. The patentee did not claim what is described as an example in the specification. Instead, the claim language was broader and

“[did] not require elimination of all redundancies from the archive.” *Id.* The Court found the claim indefinite because the intrinsic evidence failed to show the acceptable level of redundancy. *Id.* at 1363. One example (“solder resist” here, “no redundancy” in *Berkheimer*) that could satisfy the broader claim limitation does nothing to clarify the objective boundary of the claim terms (“a property of repelling a conductive material” here, “minimal redundancy” in *Berkheimer*).

While the patents use a “solder resist film” with “solder balls” in a disclosed embodiment, the specification is clear that an “external electrode terminal” is not limited to solder, but can also be made of a “metallic ball” composed of copper, nickel, or other metals. *See, e.g.*, ’298 Patent 4:19-24, 10:3-7.¹⁰ Thus, the fact that “solder resist film” has a property of repelling one specific type of external electrode terminal, i.e., solder material, does not teach whether, for example, using a “solder resist film” along with another type of external electrode terminal that is not made of solder would still satisfy the claim limitation. Ex. 7 ¶¶76-78. Moreover, it is unclear whether a material that does not “repel” solder could still fall within the scope of this claim term if it “repels” some other conductive material to some unspecified degree. Ex. 7 ¶¶77. The specification and claims fail to disclose any objective boundary to determine what materials fall outside of the claims’ scope. The public is left to guess what materials lack “a property of repelling at least some conductive material.” Ex. 7 ¶¶78. Therefore, the term is indefinite.

Tessera cites no intrinsic evidence whatsoever to support its argument that the plain and ordinary meaning of the “repelling conductive material” is “solder resist film.” Nor does Tessera cite any case that permits replacing the plain language of the claim with a single embodiment disclosed in the specification to avoid finding indefiniteness. Instead, Tessera points to patents

¹⁰ Tessera’s proposed construction of “external electrode terminal” is also not limited to “solder”—it asserts that any “terminal on the outer surface of the package for connection to external equipment” may satisfy the “external electrode terminal.”

unrelated to any of the Asserted Patents, that do not share a common inventor, and are assigned to a different company (such as U.S. Patent No. 5,521,438), or an expert declaration filed in an *inter partes* review of an unrelated patent (IPR2016-00866) to argue that “property of repelling solder is the same as the property of being unwettable.” D.I. 102 at 22–23. But Tessera’s argument again misses the point. The dispute before the Court is not whether a “solder resist film” has “a property of repelling” solder, a specific type of “conductive material.” Rather, the claims at issue broadly recite a film having a “property of repelling conductive material” without specifying the type of “repelling” property or the type of conductive material it must repel. ’298 Patent Claims 8 and 10; ’616 Patent Claims 8 and 9. And that breadth makes it impossible to determine how to avoid using a material “having a property of repelling conductive material.”

Tessera’s argument that the claim is not indefinite because Samsung’s petition for *inter partes* review (“IPR”) was able to identify prior art that meets this limitation is flawed for the same reasons as those stated above in Section III.B.1. As discussed above, the *Interval Licensing* decision demonstrates that indefiniteness and prior art invalidity defenses are not mutually exclusive. 766 F.3d at 1373. The Patent Office’s review of claims using prior art references that disclosed the specific embodiments of the specification does not necessarily mean the bounds of a claim term are definite. *See id.* Thus, Tessera’s attempt to avoid an indefiniteness challenge by hiding behind Samsung’s IPR petition fails.

The lack of any objective boundaries around the “repelling” term makes it impossible to determine how to avoid using a material “having a property of repelling conductive material.” Thus, this claim term is indefinite. *Nautilus*, 134 S. Ct. at 2129–30.

IV. CONCLUSION

For the reasons stated above, Samsung respectfully requests the Court adopt each of its proposed constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on August 17, 2018.

/s/ *Melissa R. Smith*

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